

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 57076885  
PUBLICATION DATE : 14-05-82

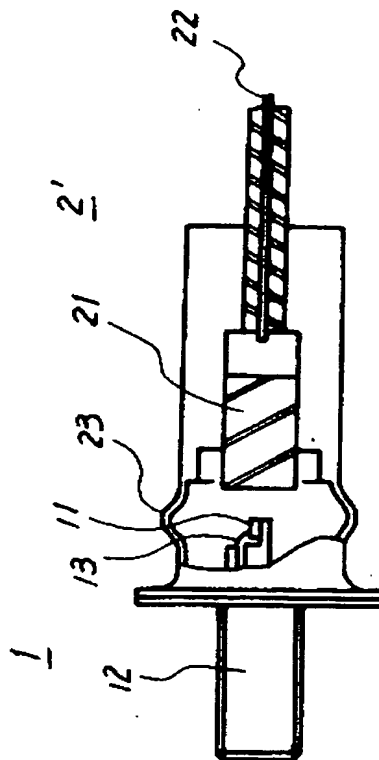
APPLICATION DATE : 31-10-80  
APPLICATION NUMBER : 55153183

APPLICANT : NEC CORP;

INVENTOR : FUJINE NOBUHIKO;

INT.CL. : H01L 33/00 H01L 31/02

TITLE : OPTICAL SEMICONDUCTOR DEVICE



**ABSTRACT :** **PURPOSE:** To facilitate optical axes matching and improve a transmission efficiency of an optical fiber by a method wherein a flexible part is provided to one end of a cap to another end of which a lens and an optical fiber are mounted and fixed and the cap is connected to an optical semiconductor device using that flexible part as a coupler.

**CONSTITUTION:** A lens 21 and an optical fiber 22 whose optical axes are matched beforehand are fixed firmly to one end of a cap 2'. On the other hand, a part 23 which has both flexibility and bendability is provided to another end of the cap 2'. A semiconductor assembly 1 composed of a stem 12 and a semiconductor element 11 mounted on it is connected and fixed to the cap 2' by means of that flexible part 23. A light beam from a laser diode is observed through the optical fiber by driving the semiconductor element 1 and adjustment of the optical axis is performed by deforming the flexible part 23 of the cap 2'. With above method the optical axis matching at the cap mounting is not necessary and approach of the lens and the semiconductor element is close, so that the light transmission efficiency of the optical fiber is improved.

**COPYRIGHT:** (C)1982,JPO&Japio